

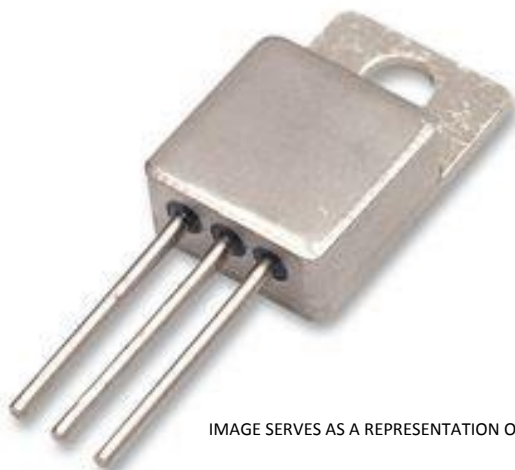


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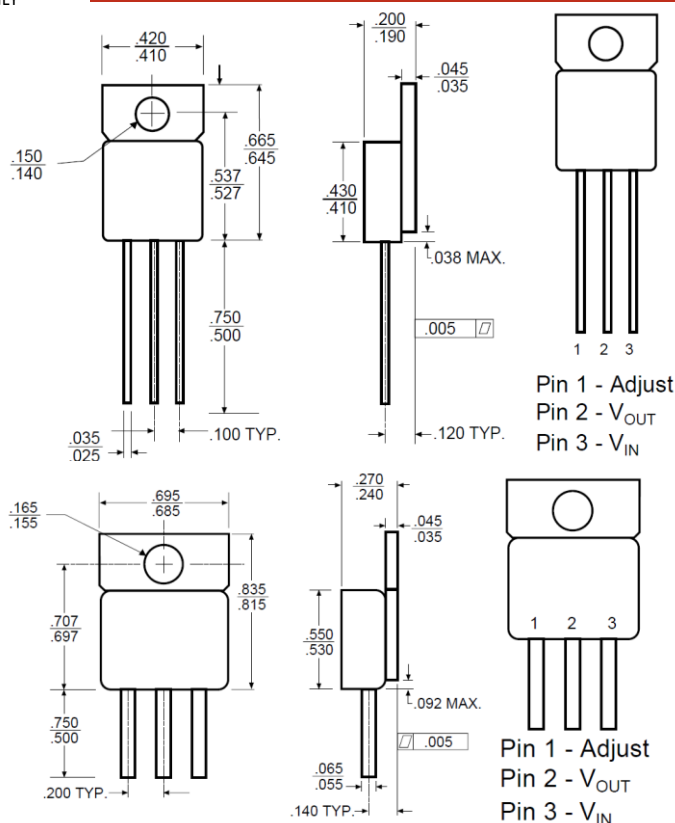
ABSTRACT

This family of three terminal positive adjustable voltage regulators are designed to provide 7.5A, 5A, 3A, and 1.5A with higher efficiency than conventional voltage regulators. The devices are designed to operate to 1 Volt input to output differential and the dropout voltage is specified as a function of load current. All devices are pin compatible with older three terminal regulators. Supplied in the easy-to-use hermetic metal TO-257 and TO-258 JEDEC packages, also supplied in a new surface-mount D² package. These devices are ideally suited for Military applications where small size, hermeticity and high reliability are required.

MAIN FEATURES

- Operates down to 1V Dropout, 1.5V @ Max. Current
- .015% Line Regulation
- .01% Load Regulation
- 1% Reference Voltage
- Hermetic TO-257 and TO-258 Isolated Packages
- Electrically Equivalent to LT1083, 84, 85, and 86

DIMENSIONS (TOP: TO-258, BOTTOM: TO-257)



ABSOLUTE MAXIMUM RATINGS

Parameter	Value	Unit
Input Voltage	35	V
Operating Junction Temperature Range	-55 to +150	°C
Storage Temperature	-65 to +150	°C
Output Current	OM183SC	7.5 A
	OM184SC	5 A
	OM185ST/SR	3 A
	OM186ST/SR	1.5 A

Note:

OM183SC and OM184SC products are packaged in the TO-258 Package (7.5A & 5A).

OM185ST and OM186ST products are packaged in the TO-257 Package (3A & 1.5A).

ELECTRICAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Units
Reference Voltage	$I_{OUT} = 10 \text{ mA}$, $T_J = 25^\circ\text{C}$ $(V_{IN} - V_{OUT}) = 3 \text{ V}$ $10\text{mA} \leq I_{OUT} \leq I_{FULL \text{ LOAD}}$	1.238	1.250	1.262	V
	$1.5 \text{ V} \leq (V_{IN} - V_{OUT}) \leq 25 \text{ V}$ (Note 3)	1.220	1.250	1.270	V
Line Regulation	$I_{LOAD} = 10 \text{ mA}$, $1.5 \text{ V} \leq (V_{IN} - V_{OUT}) \leq 15 \text{ V}$, $T_J = 25^\circ\text{C}$		0.015 0.035	0.2 0.2	% %
	$15 \text{ V} \leq (V_{IN} - V_{OUT}) \leq 35 \text{ V}$ (Notes 1 & 2)		0.05	0.5	%
Load Regulation	$(V_{IN} - V_{OUT}) = 3 \text{ V}$ $10 \text{ mA} \leq I_{OUT} \leq I_{FULL \text{ LOAD}}$ $T_J = 25^\circ\text{C}$		0.5 .8	0.8 1.0	% %
	(Notes 1, 2, 3)				
Dropout Voltage	$\Delta V_{REF} = 1\%$, $I_{OUT} = I_{FULL \text{ LOAD}}$		1.3	1.5	V
Current Limit	OM183SC $(V_{IN} - V_{OUT}) = 5 \text{ V}$ $(V_{IN} - V_{OUT}) = 25 \text{ V}$		8.0 0.4		A A
	OM184SC $(V_{IN} - V_{OUT}) = 5 \text{ V}$ $(V_{IN} - V_{OUT}) = 25 \text{ V}$		5.5 0.3		A A
	OM185ST/SR $(V_{IN} - V_{OUT}) = 5 \text{ V}$ $(V_{IN} - V_{OUT}) = 25 \text{ V}$		3.2 0.2		A A
	OM186ST/SR $(V_{IN} - V_{OUT}) = 5 \text{ V}$ $(V_{IN} - V_{OUT}) = 25 \text{ V}$		1.5 0.75		A A
Minimum Load Current	$(V_{IN} - V_{OUT}) = 25 \text{ V}$		5	10	mA
Thermal Regulation	$T_A = 25^\circ\text{C}$, 30 ms pulse Guaranteed by design				
			0.002	0.01	%/W
			0.003	0.15	%/W
			0.004	0.02	%/W
			0.010	0.05	%/W
Ripple Rejection	$f = 120 \text{ Hz}$ $C_{ADJ} = 25 \mu\text{F}$ Tantalum				
	$I_{OUT} - I_{FULL \text{ LOAD}}$ ($V_{IN} - V_{OUT}) = 3 \text{ V}$	60	75		dB
Adjust Pin Current	$T_J = 25^\circ\text{C}$		55		μA
Adjust Pin Current Change	$10\text{mA} \leq I_{OUT} \leq I_{FULL \text{ LOAD}}$				
	$1.5 \text{ V} \leq (V_{IN} - V_{OUT}) \leq 25 \text{ V}$		0.2	5	μA
Temperature Stability	$-55^\circ\text{C} \leq T_J \leq +150^\circ\text{C}$		0.5		%
Long Term Stability	$T_A = 125^\circ\text{C}$, 1000 Hrs.		0.3	1	%
Thermal Resistance	Junction-to-Case				
				4.2	$^\circ\text{C/W}$
				2.75	$^\circ\text{C/W}$

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CHARACTERISTIC CURVES

